California ISO
Your Link to Power

Proposal for a

Third Category or Alternative Treatment of New Transmission Facilities for Renewable Generators

CAISO White Paper
June 28, 2006

TABLE OF CONTENTS

1 INTRODUCTION

1.1 PURPOSE OF THIS WHITE PAPER

Many CAISO stakeholders have identified the cost of transmission facilities as a significant barrier to further development of renewable generation, especially in certain geographical regions with very little load but vast potential for renewable energy supply. In response to this input, the CAISO is exploring the development of new innovative tools and mechanisms to promote construction of transmission facilities that are necessary for renewable generating resources.

To that end, the CAISO is reviewing options and strategies for new evaluation criteria for certain transmission projects that currently are not considered "network" facilities.

This White Paper proposes one such mechanism for the construction of new transmission lines in geographic regions identified as likely to support significant quantities of renewable resources. Under this proposal, when a renewable generator requires a new high voltage transmission line for Interconnection, or when the CAISO determines such a line is necessary for the development of large amounts of renewable generation in a region, the line would be sized to accommodate anticipated Interconnections using the line.

The costs for such a line would initially be rolled into the CAISO's Transmission Access Charge (TAC), and generation developers would reimburse their share of these costs as they become operational. Thus, each renewable Generator, as well as any other Generator, would only be responsible for the costs of the line in proportion to the capacity required for its Interconnection.

Through the development of this White Paper and its refinement through stakeholder comments, the CAISO is seeking to propose general criteria for a possible third category of transmission expansions, or a subcategory of Interconnection Facilities, specifically for high-voltage, bulk-transfer generation intertie lines serving multiple renewable Generators (and potentially other Generators), that would be eligible for alternative cost recovery.

The CAISO also seeks to propose a general policy for recovering the costs associated with transmission resulting from these efforts. Only after policy guidance is issued by FERC would the CAISO seek to make changes to its Tariff to establish and recognize a new category of Transmission facilities to which this recovery mechanism would apply. In fashioning a proposal for this type of Transmission, the CAISO recognizes that FERC ultimately will resolve the policy questions related to the criteria for eligibility and the wholesale rate treatment for recovering permissible costs related to these transmission assets.

In considering elements for a possible new category of transmission facilities, the CAISO hopes to contribute to the strong consensus throughout the West that removing barriers to the development of renewable generation should be pursued by all public agencies and supported by all market participants.

1.2 REQUEST FOR STAKEHOLDER COMMENTS

The CAISO anticipates describing, in the near future, general principles for a proposed new category of transmission facilities within a petition to FERC for a declaratory order. Such an order from FERC would provide clear policy direction for a foundation of changes to the CAISO tariff that, subject to the approval of the CAISO Board of Governors, might be filed at FERC later in 2006.

Thus the CAISO proposes a process for stakeholder input in which written responses to this White Paper and comments received during a stakeholder meeting scheduled for July 7, 2006, would help shape the CAISO's preparation of a petition to FERC that describes the high-level principles for the type of facilities and the cost allocation of a new category of transmission for renewable resources.

The CAISO particularly seeks stakeholder comments that inform the preparation of its petition to FERC and/or expose policy issues that may need further resolution as this conceptual possibility for a new transmission category is further scoped. In addition, the CAISO welcomes any other comments regarding changes to the transmission planning process or the cost treatment of transmission that would facilitate the development of renewables. The CAISO requests written comments to be sent to DWithrow @caiso.com by the close of business on July 14, 2006.

Assuming FERC issues a declaratory order approving the general principles for a third transmission category, the CAISO then would seek additional stakeholder input to develop details sufficient for the filing of a tariff amendment. This two-step process is intended to avoid spending time and expense on a stakeholder process for a detailed tariff filing until there is reasonable assurance that FERC would accept the conceptual policies that support such a filing.

The CAISO notes that, beyond the stakeholder input described above, any petition for a declaratory order at FERC, as well as any future tariff filings, would be open to comments and interventions at FERC.

To reiterate, stakeholder comments to this White Paper should be most constructively focused on the policy framework to be described within the petition for a declaratory order. Detailed tariff language pertaining to a unique category of transmission needed for renewable resources will be reviewed through a separate stakeholder process prior to consideration by the CAISO Board of Governors.

1.3 RECENT REGULATORY DEVELOPMENTS

1.3.1 Background on Previous Petition to FERC for Declaratory Order

On March 24, 2005, Southern California Edison petitioned FERC for a declaratory order related to the Antelope project, three transmission segments needed to interconnect future wind projects in the Tehachapi Mountains area of California.[1] SCE categorized segments 1 and 2 as

[1] Docket No. EL05-80-000

high-voltage "network upgrades" and segment 3 as a high-voltage, bulk transfer generation intertie line. In its petition, SCE sought (1) rolled-in rate treatment for costs incurred for all three segments, (2) full recovery of all prudently-incurred costs for each segment, regardless of whether the wind generation develops or SCE abandons the projects, (3) the creation of a new category of transmission facility, "trunk lines" that would allow rolled-in rate treatment, and (4) authority to place segment 3 under the CAISO's operational control. Over 25 parties intervened and submitted comments both supporting and opposing the SCE petition.

On July 1, 2005, FERC rejected rolled-in rate treatment for segment 3 of SCE's proposed transmission project and denied SCE's request to establish a new category of transmission facilities.[2] In doing so, FERC refused to alter its traditional treatment of generation-tie facilities with respect to rate treatment. FERC deferred on the issue of advance prudence with regard to the appropriate sizing of segments 1 and 2. However, FERC modified its prior precedent for limiting recovery of abandoned or cancelled projects to 50% of the prudently incurred investment. In this case FERC granted SCE's request to allow it to recover 100% of the prudent costs of segments 1 and 2 even if the facilities are abandoned or cancelled.

1.3.2 California Public Utilities Commission "Backstop" Proceeding

Section 399.25 of the California Public Utilities Code was enacted as part of California's renewable portfolio standards (RPS) legislation. That section directs the California Public Utilities Commission (CPUC) to find that transmission facilities necessary to facilitate achievement of the State's RPS goals "needed" for the purpose of siting approval. In addition, Section 399.25 requires the CPUC to establish a "backstop" cost mechanism allowing utilities to recover through retail rates any costs of such needed transmission facilities that are not approved by FERC for recovery through transmission rates and therefore collected through the CAISO's TAC.

On June 15, 2006, the CPUC issued a decision addressing specific policies and procedures to implement the cost recovery provisions of Section 399.25.[3] The decision finds, among other things, that retail cost recovery provisions extend to high-voltage, bulk-transfer transmission facilities, whether classified as network or Interconnection Facilities so long as they are designed to serve multiple-RPS eligible Generators and that the amount of added transmission capacity will likely be utilized by RPS eligible Generators within a reasonable period of time.

The decision further states that it is the CPUC's intent to allocate the backstop costs to the ratepayers of all jurisdictional utilities, and not merely to the customers of the utility constructing the transmission facilities. However, revenues received from Generators as they take service from the constructed transmission facilities would offset the costs borne by retail ratepayers.

The CPUC's approval for cost recovery of certain facilities under Section 399.25 is viewed by a number of stakeholders as a "last resort" that, while helpful, establishes an inconsistent framework among federal and state regulators that could delay development of renewable generation. In addition, the CPUC cost recovery mechanism is limited to CPUC jurisdictional entities and may not equitably allocate the costs of these facilities to all that could potentially benefit by having greater access to renewable resource development regions.

---

[2] *Southern California Edison*, 112 FERC ¶ 61,014 (2005).

[3] See *Interim Opinion on Procedures to Implement the Cost Recovery Provisions of Public Utilities Code Section 399.25*, Investigation 05-09-005 (June 15, 2006).

To spur renewable generation development, help market participants meet the renewable goals set by the state of California and clarify the wholesale treatment of certain transmission facilities needed for renewable development in other states, the CAISO (through the proposal and process outlined in this White Paper) seeks to develop a mechanism that allows recovery of costs at the wholesale level before the renewable generation is fully developed.

2 CURRENT TREATMENT OF NEW TRANSMISSION FACILITIES WITHIN THE CAISO CONTROL AREA

Transmission facilities generally fall into three broad categories: (1) network transmission facilities, (2) Generator Interconnection Facilities, i.e. Generator intertie-lines[4] and (3) local distribution facilities. Currently, neither local distribution facilities nor Generator intertie-lines are eligible for CAISO operational control.[5] As noted above, the purpose of this White Paper is to outline and seek comments on a potential alternative approach under which certain facilities that attach multiple renewable Generators would receive initial financial support from Transmission customers to encourage the development of renewable generation resources.

The CAISO identifies and evaluates new transmission facilities through its coordinated transmission planning process. Only network transmission facilities that either promote economic efficiency or maintain system reliability in accordance with the CAISO's Applicable Reliability Criteria[6] can be recommended and approved by the CAISO and placed under its operational control. Any entity may submit a proposal for a new network transmission facility. However, the CAISO, in coordination with its Participating Transmission Owners, is under an express obligation to identify network transmission additions or upgrades, as well as alternatives to transmission, needed to maintain Applicable Reliability Criteria. As such, reliability related projects are generally proposed by Participating Transmission Owners or the CAISO through the CAISO's annual Grid Plan. Similarly, transmission projects that promote economic efficiency are frequently identified through the outcomes of CAISO studies related to reliability (such as RMR or LCR studies) or congestion.

Another way that transmission projects are identified is through the Interconnection process for new Generators, which should be viewed as a subset of the CAISO's transmission planning process. "Interconnection Customers" sponsor transmission projects that are necessary to

---

[4] Under FERC policy, a facility is not a Generator tie-line, but rather a Network Facility, if it serves any network function.

[5] See, e.g., Sec. 4.1.1 of the Transmission Control Agreement ("TCA"). Section 4.1.1 of the TCA provides, in pertinent part, that "directly assignable radial lines and associated facilities interconnecting generation" and "lines and associated facilities classified as 'local distribution' facilities" are deemed not to form part of a PTO's transmission network subject to CAISO operational control. The CAISO believes that, to the extent a third category of transmission facility is sanctioned by FERC, the TCA would not require modification because the new category of facility would not be by definition a "directly assignable radial line."

[6] Under the CAISO Tariff, Applicable Reliability Criteria are "[t]he reliability standards established by NERC, WECC, and Local Reliability Criteria as amended from time to time, including any requirements of the NRC." (CAISO Tariff, Appendix A, Master Definitions Supplement.) Local Reliability Criteria are those "Reliability Criteria unique to the transmission systems of each of the PTOs."

safely interconnect their generating plant to the CAISO Controlled Grid, or might facilitate the delivery of power that comes from that new generating plant. These projects can be either "Interconnection Facilities" or "Network Upgrades." The nature of and cost treatment of these different classifications of Interconnection-related transmission projects are discussed further in the section below.

2.1 INTERCONNECTION FACILITIES

In Order No. 2003[7] and its progeny setting forth standard Interconnection procedures and agreements for the Interconnection of large Generating Units (i.e., generators > 20 MW), FERC utilized the term "Interconnection Facilities." Interconnection Facilities include all transmission facilities and equipment necessary to physically and electrically interconnect the Large Generating Facility to the ISO Controlled Grid. Interconnection Facilities are "sole use" facilities and do not include Network Upgrades described below. This definition of Interconnection Facilities is roughly equivalent to and replaces the prior term Direct Assignment Facilities, which was used by the CAISO prior to its compliance with Order No. 2003.

2.2 NETWORK UPGRADES

This category includes any addition, modification, and/or upgrade to the ISO Controlled Grid required at or beyond the first point of Interconnection necessary to accommodate the Interconnection of a new generating facility to the ISO Controlled Grid. Network Upgrades consist of Delivery Network Upgrades and Reliability Network Upgrades.

2.2.1 Reliability Network Upgrades

Reliability Network Upgrades consist of any addition, modification, and/or upgrade to the ISO Controlled Grid beyond the first point of Interconnection necessary to safely and reliably interconnect the Large Generating Facility to the ISO Controlled Grid, including those necessary to remedy short circuit or stability problems resulting from the Interconnection. Reliability Network Upgrades also include, consistent with WECC practice, the facilities necessary to mitigate any adverse impact the Interconnection may have on a path's WECC rating.

2.2.2 Delivery Network Upgrades

Delivery Network Upgrades are those transmission facilities, other than Interconnection Facilities and Reliability Upgrades, necessary to relieve constraints on the CAISO Controlled grid and to ensure the delivery of energy from a new Large Generating Facility to Load under peak conditions.

2.3 COST ALLOCATION

Under current FERC policy, costs for Interconnection Facilities are borne solely by the generation developer. The upfront costs to the Generator developer are not subject to

[7] *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, Stats. & Regs. ¶ 31,146, 68 Fed.Reg. 49,846 (2003); *Order on Rehearing*, 106 FERC ¶ 61,220 (2004) ("Order No. 2003-A").

reimbursement from Participating Transmission Owners.[8] Generally, Interconnection Facilities are short in distance, not subject to the CAISO's Operational Control and are designed to transmit the output of a single Generating Unit owner. Where there is no reason, economic or otherwise, to size a line in excess of that needed to support the output of a particular known Generator, this policy is unlikely to impose a burden on generation developers.

Network Upgrades, whether Reliability Network Upgrades or Delivery Network Upgrades, are treated differently. Under FERC policy, the interconnecting Generator generally must provide the upfront funding for Delivery Network Upgrades. However, unlike Interconnection Facilities, the costs of Network Upgrades can be "rolled-in" to general transmission rates of the Participating Transmission Owners and recovered through the CAISO's TAC. Accordingly, this provides the interconnecting Generator with the option of electing either to receive (1) refunds from the Participating Transmission Owner, with interests, over a five-year period or (2) transmission rights, i.e., Firm Transmission Rights or Congestion Revenue Rights, as applicable. The Participating Transmission Owner may, at its own election, agree to initially pay for the necessary Network Upgrades.

3 PROPOSAL FOR A THIRD CATEGORY OR ALTERNATIVE TREATMENT OF TRANSMISSION FACILITIES FOR RENEWABLE GENERATORS

Numerous parties have asserted that the traditional treatment accorded Interconnection Facilities costs is problematic in instances where the optimally sized expansion, based on expectations of future market entry in the region, exceeds the capacity needed to support the known projects that have applied for Interconnection.

The unique, location-specific nature of the renewable generation, as well as the relatively small size of many renewable generation projects, differentiates transmission needs of renewables resources from that of other generation sources. Renewable generation is often located in areas remote from load centers and at a "reasonable distance" from the existing grid. The remote region typically has little or no transmission and is subject to significant transmission constraints. In addition, the capacity of an individual renewable generation project often will be much smaller than the capacity of the tie-line required to optimally and efficiently connect all expected renewables (and any other) generation in the region to the networked grid. In these circumstances, renewable developers have claimed an inability to finance the totality of the costs associated with the Interconnection Facilities sized to accommodate the anticipated quantity of generation in the region.

The CAISO seeks comment on a proposal for a possible distinct category for "renewable generator supply transmission lines." Another way to describe this proposal is, essentially, as a subcategory of Interconnection Facilities that would be eligible for alternative cost recovery treatment. These facilities would be defined as "high-voltage transmission facilities necessary to interconnect large concentrations of potential renewable resources" and "designed to

[8] See CAISO Tariff, Appendix V (Standard Large Generator Interconnection Agreement) at Art. 11.

overcome obstacles to the construction of transmission and the development of renewable resources." Other generation that could connect to the supply transmission line would also be eligible for the alternative rate treatment.

The eligible evaluation assessment would be conducted as part of the CAISO transmission planning efforts and would include an evaluation of the economic benefits that the proposed facilities would provide by facilitating the State's Renewable Portfolio Standard, currently 20% by 2010. CAISO determination that transmission facilities are necessary for the efficient development of renewable energy resources would provide justification for up-front cost recovery by Participating Transmission Owners.

3.1 PROPOSED PRINCIPLES FOR ELIGIBILITY

A fundamental question is how to define the principles by which a transmission project would qualify for alternative treatment. As a starting point, it may be useful again to note the current distinction between network facilities and generation interties (gen-ties.)

Generally transmission upgrades that have the following operational characteristics would be considered "network" facilities:

- High-voltage transmission that is or is expected to be placed under CAISO operational control.
- Transmission facilities with bi-directional power flows, not radial.
- Transmission facilities that will be integrated into the CAISO Control Area transmission system.

Within its petition for a declaratory order, the CAISO proposes to make clear that transmission that would clearly qualify as a network upgrade would not be eligible for the alternative treatment. The CAISO proposes to clarify the facilities that would qualify for alternative treatment would be transmission lines with certain characteristics, such as Interconnection to a sufficiently large supply of renewable resources, or possessing a degree of integration that could benefit the regional grid.

The CAISO offers the following general eligibility criteria for alternative treatment:

- A clearly defined state or federal policy supporting the development of the renewable generation and, based on identified public benefits from its development, encourage or require the inclusion of such renewable generation in LSE portfolios.

- Transmission that is necessary primarily to connect an area with the potential for large amounts of renewable energy generation to the transmission network. The CAISO would rely on state entities such as the CPUC or CEC to identify and assess renewable resource areas.

- The individual renewable resources expected to be developed in the area would each have capacity that is significantly smaller than the efficient transfer capability of the transmission facilities, making it (a) inefficient to tailor the size of the transmission facilities to the initially proposed generating units; and (b) unduly burdensome for the

initially proposed Generators to support financially an optimally sized transmission facility.

- Transmission facilities that would not qualify as traditional reliability or delivery upgrades and, if Generator funding were required, would pose a significant barrier to the development of renewable generation.

- Load Serving Entities entering into signed forward contracts with associated renewable resources in the area. Such a prerequisite might include a minimum number of developers in the area with contracts established that would demonstrate a critical mass that would support development of the transmission.

To summarize, this new class for transmission evaluations should meet the following criteria:

New high-voltage, bulk-transfer transmission facilities, not eligible to be classified as network upgrades, which are designed to serve multiple renewable Generators where it has been established that the amount of added transmission capacity likely will be utilized by renewable Generators within a reasonable period of time.

The CAISO seeks additional input from stakeholders on the nature of transmission that might fall under a new category for Interconnection Facilities.

3.2 PROPOSED COST RECOVERY TREATMENT

Currently, the costs for building networked transmission facilities, but not gen-ties, are rolled-into the TAC. This reflects the presumption that the networked facilities provide benefits to all users of the Grid.

As discussed above, application of this general transmission pricing policy can serve as a deterrent to the construction of optimally sized Interconnection Facilities necessary for compliance with the State's RPS. The effect could be mitigated by providing that the costs of eligible renewable generator supply transmission would be initially funded by the Participating Transmission Owner and would be recovered by rolling the costs of such facilities into the CAISO's TAC until such costs are reimbursed by generation developers.

As generation develops and utilizes the facilities, developers could reimburse the Participating Transmission Owner their share of the renewable generator supply transmission line in installments. The reimbursement would flow to ratepayers through the Transmission Revenue Balancing Account (TRBA). This would allow renewable generator supply transmission lines to be built in advance of Generator Interconnection requests, but ultimately be paid by generation developers when generation developers step forward to attach generation resources to the line.

Such an approach:

- provides a mechanism for transmission project developers (Participating Transmission Owners) to obtain full cost recovery for the transmission facilities without unduly burdening the development of renewable generation.

- benefits prospective Interconnection customers (renewable generation) by increasing the likelihood that Interconnection Facilities will be in place when they initiate an Interconnection request and ensuring that they do not have to bear the full cost of those facilities up front as a direct assignment charge.

- benefits electricity consumers by encouraging the development of renewable generating resources through which the policies reflected in the RPS can be advanced.

This approach being considered by the CAISO is consistent with the principles underlying rolled-in rate treatment, *i.e.,* the upgrades provide benefits to all participants in the CAISO markets in the form of greater access to renewable generation and therefore a more diverse portfolio and economic means of meeting the State's RPS, currently 20% by 2010. Moreover, the inclusion of the costs of eligible renewable generator supply transmission lines in rolled-in transmission rates is temporary because, as new generation is developed that interconnects to the facility, costs will be shifted from transmission customers to generators. In these circumstances, the CAISO suggests that it's appropriate that costs for transmission facilities that facilitate the efficient development of renewable energy resources to meet State and regional policies be initially spread to all transmission customers.

In summary, the CAISO proposes the following preferred cost recovery treatment for renewable generator supply transmission line facilities:

- *Rolled-in rate treatment of unrecovered costs through the CAISO's Transmission Access Charge (TAC). Thus, up-front costs would be initially covered by the Participating Transmission Owner and rolled into the CAISO's TAC, which is paid by all users of the CAISO Controlled Grid. As the renewable generation resources are developed in the area connected by the transmission facilities, cost recovery would be transferred to those generation owners. Once the anticipated generation is fully developed, none of the costs would be included in the TAC.*

Other options for cost allocation to be considered by stakeholders:

- Allow costs to roll into TAC for a period of years – for example, five years – after which the percentage of rate recovery through TAC diminishes over time until 100% of the residual cost of the transmission facility is borne by the sponsoring Participating Transmission Owner and recovered solely through mechanisms that impact its own customers, and not by all CAISO grid customers. Such a provision could still provide a "jump-start" for transmission needed for renewable resources but would also impose more risk management upon the Participating Transmission Owners and ensure that over the long-run only those facilities that truly provide the benefits of renewable generation would be paid by all CAISO customers.

- Allow costs to roll into TAC and be paid by all CAISO customers except those customers who are not mandated by current state law to meet RPS requirements. This approach would limit the cost recovery mechanism to CPUC jurisdictional entities and presumes that entities not legally obligated by state law to meet RPS standards would not benefit by having greater access to renewable resource development regions.

The CAISO seeks additional input from stakeholders on a proposed general policy for cost allocation of transmission that falls under a new category for Interconnection Facilities.

.